

CLAIMS

1. A method for rapidly establishing a Bluetooth type communication between a reader having a Bluetooth type communication protocol and a communicating object having said Bluetooth type communication protocol and a communication address, said Bluetooth type communication protocol implementing a radio frequency communication process on channels having specific frequencies divided into a first subgroup of frequencies and a second subgroup of frequencies, the method comprising the steps of:
 - sending a Bluetooth request and establishing said communication process by said reader to determine whether at least one communicating object is present in the environment in which said reader is located;
 - transmitting a response signal to reveal its presence and said communication address to said reader by said communicating object that receives said Bluetooth request;
 - selecting said at least one communicating object with which said reader exchanges information from among the received communication addresses of said communicating objects by said reader;
 - alternately and successively selecting a frequency from the first subgroup of frequencies followed by a frequency from the second subgroup of frequencies by said communicating object;
 - randomly selecting the first subgroup of frequencies or the second subgroup of frequencies by said reader; and
 - performing frequency scans of the frequencies in the selected subgroup of frequencies before performing a frequency scan of the other subgroup of frequencies by said reader, thereby reducing the time required for said reader and said communicating object to find the frequency of the channel on which they can exchange information.
2. The method of claim 1, wherein said reader is associated with a mobile telephone unit; and further comprising the steps of:
 - detecting GSM signals sent by said mobile telephone unit by said communicating object; and

activating the sending of said response signal to said request based on the detected GSM signals by said communicating object, thereby reducing the power consumption of said communicating object by activating the sending of said response signal only at the appropriate time.

3. The method of claim 1, wherein said communication protocol comprises standby phases and active phases; and further comprising the step of adapting the duration of said standby phases to a number of said Bluetooth requests sent by said reader.
4. The method of claim 1, further comprising the step of establishing a Bluetooth connection between said reader and said communicating object using said frequency of the channel on which they can exchange information.
5. The method of claim 1, further comprising the steps of:
 - giving one of said communicating objects a status of a master communicating object relative to the other communicating objects having status of slave communicating objects;
 - collecting the communication address and/or said specific information from said slave communicating objects by said master communicating object;
 - responding to said Bluetooth requests sent by said reader by said master communicating object so that said reader collects all of the information from said plurality of communicating objects.
6. The method of claim 5, further comprising the step of transferring to another communicating object the status of a master communicating object by said master communicating object.
7. The method of claim 6, further comprising the steps of:
 - communicating to the new master communicating object the information concerning the other communicating objects by the previous master communicating object; and
 - verifying the information from the previous master communicating object by said new master communicating object.

8. The method of claim 1 being activated by means of an application linked to said communicating object when said application is activated by a user of said communicating object.
9. A system for rapidly establishing a Bluetooth type communication between a reader and a communicating object, comprising
 - a reader having a Bluetooth type communication protocol implementing a radio frequency communication process on channels having specific frequencies divided into a first subgroup of frequencies and a second subgroup of frequencies, and comprising a first sending means for sending a Bluetooth request and establishing said communication process to determine whether at least one communicating object is present in the environment in which said reader is located; and
 - a plurality of communicating objects, each having a communication address and said Bluetooth type communication protocol, and comprising:
 - a second sending means for sending a response signal to reveal its presence and for transmitting said communication address to said reader; and
 - a data processor for alternately and successively selecting a frequency from the first subgroup of frequencies followed by a frequency from the second subgroup of frequencies; and
 - wherein said reader further comprises a processor for:
 - selecting said at least one communicating object with which said reader exchanges information from among the communication addresses of communicating objects present;
 - randomly selecting the first subgroup of frequencies or the second subgroup of frequencies; and
 - performing frequency scans of the frequencies in the selected subgroup of frequencies before performing a scan of the frequencies in the other subgroup of frequencies, thereby reducing the time required for said reader and said at least one communicating object to find the frequency of the channel on which they can exchange information.
10. The system of claim of claim 9, wherein said reader is associated with a mobile telephone unit; and wherein each communicating object further comprises a

detection means for detecting GSM signals sent by said mobile telephone unit and an activation means for activating the sending of said response signal to said request by said second sending means based on the detected GSM signals, thereby reducing the power consumption of said communicating object by activating the sending of said response signal only at the appropriate time.

11. The system of claim 9, wherein said communication protocol comprises standby phases and active phases; and wherein said data processor of said at least one communicating object is operable to adapt the duration of the standby phases to the number of said Bluetooth requests sent by said reader.
12. The system of claim 9, further comprising a connection means for establishing a Bluetooth type connection between said reader and said at least one communicating object using said frequency of the channel on which they can exchange information.
13. The system of claim 9, wherein one of said plurality of communicating objects is given a status of a master communicating object relative to the other communicating objects having a status of slave communicating objects; and wherein said data processor of said master communicating object is operable to:
 - collect the communication address and/or said specific information from each slave communicating object; and
 - respond to said Bluetooth requests sent by said reader so that said reader collects all of the information from said plurality of communicating objects.
14. The system of claim 13, wherein said data processor of said master communicating object is operable to transfer to another communicating object the status of master communicating object.
15. The system of claim 14, wherein said data processor of the previous master communicating object is operable to communicate to the new master communicating object the information concerning the other communicating objects; and wherein said data processor of the new master communicating object is operable to verify the information from the previous master communicating object.

16. The system of claim 9, wherein said communicating object is linked to an application module which is operable to trigger the establishment of the communication between said communicating object and said reader, and wherein said application module being activated by a simple action from a user of said communicating object.
17. A communicating object for rapidly establish a Bluetooth type communication with a reader having a Bluetooth type communication protocol implementing a radio frequency communication process on channels having specific frequencies divided into a first subgroup of frequencies and a second subgroup of frequencies, said communicating object having said Bluetooth type communication protocol and a communication address, and wherein said reader comprises a first sending means for sending a Bluetooth request and establishing said communication process to determine whether at least one communicating object is present in the environment in which said reader is located, said communicating object comprising:
 - a receiving means for receiving said Bluetooth request from said reader;
 - a second sending means for sending a response signal revealing its presence and transmitting said communication address to said reader; and
 - a data processor for alternately and successively selecting a frequency from the first subgroup of frequencies followed by a frequency from the second subgroup of frequencies; andwherein a processor of said reader is operable to:
 - randomly select the first subgroup of frequencies or the second subgroup of frequencies; and
 - frequency scan the frequencies in the selected subgroup of frequencies before performing a scan of the frequencies in the other subgroup of frequencies, thereby reducing the time required for said reader and said communicating object to find the frequency of the channel on which they can exchange information.
18. The communicating object of claim 17, wherein said reader is associated with a mobile telephone unit; and further comprising:

a detection means for detecting GSM signals sent by said mobile telephone unit; and

an activation means for activating the sending of said response signal to said Bluetooth request by said second sending means based on the detected GSM signals, thereby reducing the power consumption of said communicating object by activating the sending of said response signal only at the appropriate time.

19. The communicating object of claim 17, wherein said communication protocol comprises standby phases and active phases; and wherein said data processor of said communicating object is operable to adapt the duration of the standby phases to a number of said Bluetooth requests sent by said reader.
20. The communicating object of claim 17, further comprising a connection means for establishing a Bluetooth type connection between said reader and said communicating object using said frequency of the channel on which they can exchange information.
21. The communicating object of claim 17, wherein said data processor is operable to:
 - give said communicating object a status of a master communicating object relative to the other communicating objects having a status of slave communicating objects;
 - collect the communication address and/or said specific information from each slave communicating object; and
 - respond to said Bluetooth requests sent by said reader so that said reader collects all of the information from the communicating objects.
22. The communicating object of claim 21, wherein said data processor of said master communicating object is operable to transfer to another communicating object the status of master communicating object.
23. The communicating object of claim 22, wherein said data processor of said master communicating object is operable to communicate to the new master communicating object the information concerning the other communicating objects; and wherein said data processor of the new master communicating object is operable to verify the information from said master communicating object.

24. The communicating object of claim 17, wherein said communicating object is linked to an application module which is operable to trigger the establishment of the communication between said communicating object and said reader, and wherein said application module being activated by a simple action from a user of said communicating object.